SQL Concepts & Fundamentals
Spring AU 2021

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Assignment:

1. Assuming you are ready with the ER Model (from Morning session Assignment), transform it into a Database schema. Create tables keeping up good practices and send me the create scripts you've written.
2. Write a query to retrieve the most sold product per day in a specific location (take any location) last week.
3. Write a query to list all the salespersons' details along with the count of products sold by them (if any) till current date.

Note: Along with the queries you've written, attach screenshots of the output for Q's 2 & 3.

SQL files attached:
1. Table Creation.sql
2. Data Insertion.sql
3. View Data.sql
4. Queries1and2.sql
5. RoughWork.sql

Data details:
1. **Number of customers: 10 (CS01 - CS10)**
2. **Number of locations: 5 (L01 - L05)**
3. **Number of sales executives: 5 (SE01 - SE05)**
4. **Number of orders: 22**
5. **Order date range: "2021-01-03 to 2021-01-10"**

A. Query to retrieve the most sold product per day in a specific location (take any location) last week
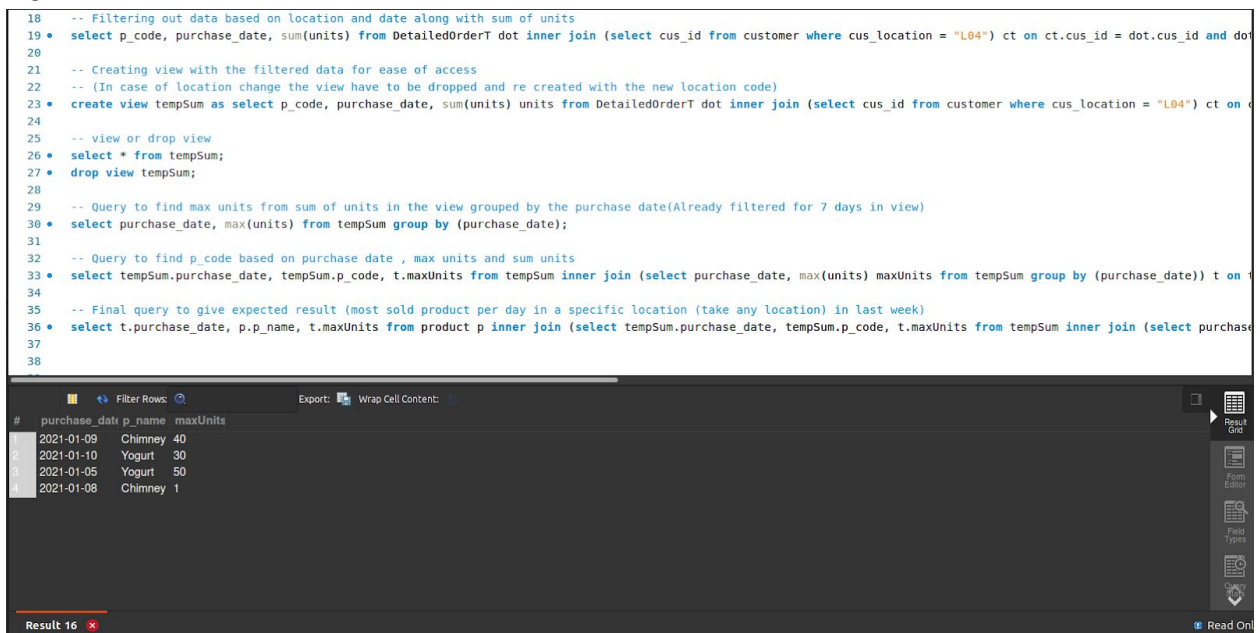
The final query:

```sql
SELECT t.purchase_date,
       p.p_name,
       t.maxunits
FROM   product p
       INNER JOIN (SELECT tempsum.purchase_date,
                          tempsum.p_code,
                          t.maxunits
                   FROM   tempsum
                          INNER JOIN (SELECT purchase_date,
                                             Max(units) maxUnits
                                      FROM   tempsum
                                      GROUP  BY ( purchase_date )) t
                                  ON t.purchase_date = tempsum.purchase_date
                                     AND tempsum.units = t.maxunits) t
               ON p.p_code = t.p_code;
```

Screenshots for Location "L04" - Kochi :

MySQL Workbench

```
18    -- Filtering out data based on location and date along with sum of units
19 •  select p_code, purchase_date, sum(units) from DetailedOrderT dot inner join (select cus_id from customer where cus_location = "L04") ct on ct.cus_id = dot.cus_id and dot
20
21    -- Creating view with the filtered data for ease of access
22    -- (In case of location change the view have to be dropped and re created with the new location code)
23 •  create view tempSum as select p_code, purchase_date, sum(units) units from DetailedOrderT dot inner join (select cus_id from customer where cus_location = "L04") ct on c
24
25    -- view or drop view
26 •  select * from tempSum;
27 •  drop view tempSum;
28
29    -- Query to find max units from sum of units in the view grouped by the purchase date(Already filtered for 7 days in view)
30 •  select purchase_date, max(units) from tempSum group by (purchase_date);
31
32    -- Query to find p_code based on purchase date , max units and sum units
33 •  select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase_date, max(units) maxUnits from tempSum group by (purchase_date)) t on t
34
35    -- Final query to give expected result (most sold product per day in a specific location (take any location) in last week)
36 •  select t.purchase_date, p.p_name, t.maxUnits from product p inner join (select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase
37
38
```

#	purchase_date	p_name	maxUnits
1	2021-01-09	Chimney	40
2	2021-01-10	Yogurt	30
3	2021-01-05	Yogurt	50
4	2021-01-08	Chimney	1

Result 16

MySQL Terminal

```
mysql> select t.purchase_date, p.p_name, t.maxUnits from product p inner join (select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase_date, max(units) maxUnits
from tempSum group by (purchase_date)) t on t.purchase_date = tempSum.purchase_Date and tempSum.units = t.maxUnits) t on p.p_code = t.p_code;
+---------------+---------+----------+
| purchase_date | p_name  | maxUnits |
+---------------+---------+----------+
| 2021-01-09    | Chimney |       40 |
| 2021-01-10    | Yogurt  |       30 |
| 2021-01-05    | Yogurt  |       50 |
| 2021-01-08    | Chimney |        1 |
+---------------+---------+----------+
4 rows in set (0.00 sec)

mysql>
```

Screenshots for Location "L01" - Chennai:

MySQL Workbench

```
22      -- (In case of location change the view "tempSum" have to be dropped and re created with the new location code)
23  •   create view tempSum as select p_code, purchase_date, sum(units) units from DetailedOrderT dot inner join (select cus_id from customer where cus_location = "L01") ct on
24
25      -- view or drop view
26  •   select * from tempSum;
27  •   drop view tempSum;
28
29      -- Query to find max units from sum of units in the view grouped by the purchase date(Already filtered for 7 days in view)
30  •   select purchase_date, max(units) from tempSum group by (purchase_date);
31
32      -- Query to find p_code based on purchase date , max units and sum units
33  •   select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase_date, max(units) maxUnits from tempSum group by (purchase_date)) t on
34
35      -- Final query to give expected result (most sold product per day in a specific location (take any location) in last week)
36  •   select t.purchase_date, p.p_name, t.maxUnits from product p inner join (select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase
37
38
39
40
41
42                      -- 2 list all the sales persons details along with the count of products sold by them (if any) till current date --
```

#	purchase_date	p_name	maxUnits
1	2021-01-07	Skin Lotion	22
2	2021-01-04	Yogurt	20
3	2021-01-09	Cheese	20

Result 17

Read Only

MySQL Terminal

```
mysql> select t.purchase_date, p.p_name, t.maxUnits from product p inner join (select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase_date, max(units) maxUnits
from tempSum group by (purchase_date)) t on t.purchase_date = tempSum.purchase_Date and tempSum.units = t.maxUnits) t on p.p_code = t.p_code;
+---------------+-------------+----------+
| purchase_date | p_name      | maxUnits |
+---------------+-------------+----------+
| 2021-01-07    | Skin Lotion |       22 |
| 2021-01-04    | Yogurt      |       20 |
| 2021-01-09    | Cheese      |       20 |
+---------------+-------------+----------+
3 rows in set (0.00 sec)

mysql>
```

B. Query to list all the salespersons' details along with the count of products sold by them (if any) till current date

The final query:

```sql
SELECT salesex.se_id,
       salesex.se_name,
       saleDetail.sold_units,
       se_mobile,
       se_dob,
       se_gender
FROM   salesex
       INNER JOIN (SELECT se_id,
                          Sum(units) Sold_Units
                   FROM   (SELECT se_id,
                                  p_code,
                                  units
                           FROM   ordert
                                  INNER JOIN order_product
                                         ON ordert.or_id =
order_product.or_id)
                          t
                   GROUP  BY se_id) saleDetail
               ON saleDetail.se_id = salesex.se_id;
```

Screenshot:
MySQL Workbench


```
33 •   select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase_date, max(units) maxUnits from tempSum group by (purchase_date)) t on 
34
35     -- Final query to give expected result (most sold product per day in a specific location (take any location) in last week)
36 •   select t.purchase_date, p.p_name, t.maxUnits from product p inner join (select tempSum.purchase_date, tempSum.p_code, t.maxUnits from tempSum inner join (select purchase
37
38
39
40
41
42                         -- 2 list all the sales persons details along with the count of products sold by them (if any) till current date --
43
44     -- Query to get product code and se_id (Sales Executive id)
45 •   select se_id, p_code, units from orderT inner join order_product on orderT.or_id = order_product.or_id;
46
47     -- Query to get sum of all items sold by each sales executive
48 •   select se_id, sum(units) from (select se_id, p_code, units from orderT inner join order_product on orderT.or_id = order_product.or_id) t group by se_id;
49
50     -- Final query to give expected result (all the sales persons details along with the count of products sold by them (if any) till current date)
51 •   select salesEx.se_id, salesEx.se_name, saleDetail.Sold_Units, se_mobile, se_dob, se_gender from salesEx inner join (select se_id, sum(units) Sold_Units from (select se_
52
53
```

#	se_id	se_name	Sold_Units	se_mobile	se_dob	se_gender
1	SE01	Alan	153	9921335670	1998-01-07	M
2	SE02	Bella	8	9821545635	1997-03-02	F
3	SE03	Issac	127	9922343659	1988-01-07	M
4	SE04	Taylor	61	9921345678	2001-01-14	F
5	SE05	Kayce	58	9821345325	1975-05-23	F

Result 18

MySQL Terminal


```
mysql> select salesEx.se_id, salesEx.se_name, saleDetail.Sold_Units, se_mobile, se_dob, se_gender from salesEx inner join (select se_id, sum(units) Sold_Units from (select se_id, p_code, units from order
T inner join order_product on orderT.or_id = order_product.or_id) t group by se_id) saleDetail on saleDetail.se_id = salesEx.se_id;
+-------+---------+------------+------------+------------+-----------+
| se_id | se_name | Sold_Units | se_mobile  | se_dob     | se_gender |
+-------+---------+------------+------------+------------+-----------+
| SE01  | Alan    |        153 | 9921335670 | 1998-01-07 | M         |
| SE02  | Bella   |          8 | 9821545635 | 1997-03-02 | F         |
| SE03  | Issac   |        127 | 9922343659 | 1988-01-07 | M         |
| SE04  | Taylor  |         61 | 9921345678 | 2001-01-14 | F         |
| SE05  | Kayce   |         58 | 9821345325 | 1975-05-23 | F         |
+-------+---------+------------+------------+------------+-----------+
5 rows in set (0.00 sec)

mysql>
```